masibus

TT7S

Isolated & Programmable Temperature Transmitters

TT7S10

TT7S11

TT7S10-H

TT7S10 : Loop Powered DIN Rail Mount
TT7S11 : Aux Powered DIN Rail Mount
TT7S10-H : Loop Powered Head Mount

Isolated. Universal. Accurate

TT7S series Transmitters are designed for Isolated and accurate temperature measurements and signal conditioning Applications. Model TT7S10 is 2-wire Loop powered; Model TT7S11 is 4-wire Auxiliary powered and Model TT7S10-H is Head mount version of TT7S10. All models are programmable for Thermocouples, Pt-100 RTD, mV and Resistance/Potentiometer. Output signal is standard 4-20mA in 2-wire and mA or Volts in 4-wire. Programming of the Transmitters is easy by means of user friendly mTRAN windows based configuration software.

TT7S Series Transmitters are built using the latest Technology to deliver high performance in Accuracy, Resolution, Stability and Isolation. Zero/Span adjustments, sensor break detection/protection, Reverse output and Reverse Polarity protection are standard features across all models.

Software techniques like polynomial Linearization and digital filtering gives Linearized and stable output in harsh industrial conditions, High level of isolation between Input and output prevents ground loop errors and protects costly measurement and control systems under fault conditions.

mTRAN a windows based Software is used for configuring, calibration and monitoring the TT7S Transmitters.

Features

- Universal input (RTD, thermocouple, Ohm, mV)
- 1.5 KV RMS Isolation between Input & Output
- Linearized Output
- Highly Accurate
- Fully Programmable for Input type & Range
- Fast Response time: <500 ms
- Digital Filter
- Windows mTRAN software for Configuration, Calibration & Monitoring
- Reverse polarity protection
- Direct/Reverse output
- Sensor break detection
- Loop/Aux Powered models

Applications

- Power Plants
- Metal Industry
- Oil & Gas
- Chemical
- Glass Industry
- Cement
- Fertilizer

Technical Specifications

Input

Input Type

RTD	Pt100 3-WIRE
Resistance/Potentiometer	0-2500Ω
Sensor current	0.2 mA
Thermocouple	E, J, K,T,B,R,S,N (ANSI standard)
mV	0-75mV/ 0-500 mV DC
Input Impedance	> 1M ohms
Sensor Break current	<1 uA
Input Range	Refer Table -1
Zero Adjust	Through mTRAN Software
Span Adjust	Through mTRAN Software

Accuracy

E, J, K, T, N, PT-100, mV, Ω	0.1% of FS
B, R, S	0.25% of FS

CJC Error

E, J, K, T, N	±2 ℃
R, S	±3 ℃
Stability	±0.1% per year
Response time	< 500msec
Digital Filter	0-20 sec settable through software (2 sec default)
CMRR	> 120 dB
NMRR	≈ 40 dB
Temp-co	<150ppm

Output

TT7S10 & TT7S10-H

Output	4-20mA or 20-4mA (user set)
Resolution	1 uA
Sensor break Output	Lo < 3.8 mA or Hi >21mA (user set)
Output load	R load= (Voltage supply - 7.5)/0.021 Ohm

TT7S11

Output (Direct/Reverse)	0/4-20mA, 0/1-5V, 0-10V (factory set)
Resolution Current Voltage	 1 uA 0.25 mV (0/1-5V), 0-50mV(0-10V)
Sensor break Output	Lo < 3.2mA or Hi >20.8mA (user set)
Output Load Current Voltage	 < 750 ohms > 4K ohms

Supply

TT7S10 & TT7S10-H	7.5-36 VDC 2-Wire

TT7S11
  Supply
  Watt
	
	18-36 VDC
	< 2 Watts

Isolation

TT7S10 & TT7S10-H
Galvanic Isolation:
1500VAC for 1 minute between input & output

TT7S11
Galvanic Isolation:
1500VAC for 1 minute between input & output
1500VAC for 1 minute between input & supply
1500VAC for 1 minute between output & supply

Physical

Mounting
  TT7S10 & TT7S11
  TT7S10-H
	
	35 mm DIN Rail
	Sensor Head

Dimensions
  TT7S10
  TT7S11
  TT7S10-H
    Diameter
    Height
	
	12.5(W)x99(H)x114.5(D) mm
	22.5(W)x75(H)x110(D) mm
	
	46mm
	28mm

Enclosure Material
  TT7S10-H
  TT7S10 & TT7S11
	
	Polycarbonate
	ABS

Environmental

Operating temperature
  TT7S10-H
  TT7S10 & TT7S11
	
	0 to 85 °C
	0 to 55 °C

Storage temperature	-20 to +85 °C
Humidity	30 to 95% (Non-condensing)

Table-1: Input Range

Input Type	Ranges
E	-200 to 1000ºC
J	-200 to 1200°C
K	-200 to 1372°C
T	-200 to 400°C
B	450 to 1820°C
R	0 to 1750°C
S	0 to 1750°C
N	-200 to 1300°C
Pt-100	-200 to 850°C
LINEAR	0-75mV/ 0-500mV
Potentiometer	0-2500Ω

ORDERING CODE

Model		Transmitter Type		Input		Output
TT7S	10	Loop-Powered Din Rail Mount	1	E	1	4-20mA
	11	Aux-Powered Din Rail Mount	2	J	2*	0-20mA
	10-H	Loop-Powered Head Mount	3	K	3*	1-5V
			4	T	4*	0-10V
			5	B	5*	0-5V
			6	R		
			7	S		* Available in Aux Powered model TT7S11 only
			8	N		
			9	Pt-100		
			U	0-75mV		
			H	0-500mV		
			I	0-2500Ω		

Option:TT7SCC - Configuration cable@ extra cost
mTRAN Software: Website download

Masibus Representative: